



## Soumya Ranjan Samal, Ph.D.

**Designation** : Sr. Assistant Professor  
**Department** : Department of Electronics & Communication Engg.  
(JOINED THE INSTITUTE IN 2011)  
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### RESEARCH INTERESTS

- ✓ Wireless Communication
- ✓ IoT

### Academic Qualifications

- Ph. D. (Electronics & Communication Engg.), TUS, Sofia, Europe
- M. Tech. (Computer Science & Engg.), Utkal University, Odisha
- B. Tech. (Electronics & Telecommunication Engg.), BPUT, Odisha

### Teaching Experience/Industrial Experience/Research Experience

- Teaching Experience : More than 15 years
- Research Experience : More than 10 years

### PUBLICATIONS:

#### JOURNAL & CONFERENCES

#### Journals:

1. **S. R. Samal**, S. Bandopadhyaya, S. K. Dora, V. Poulkov, "Coverage analysis of heterogeneous wireless network with n-interacted transmission nodes", IGI Global, International Journal of Interdisciplinary Telecommunications and Networking (IJITN), Vol. 9, no. 4, pp. 49-58, 2017, doi: 10.4018/IJITN.2017100106. [SCI Indexed Journal]
2. **S. R. Samal**, "Interference Management Techniques in Small Cells Overlaid Heterogeneous Cellular Networks", Journal of Mobile Multimedia, Vol: 14, Issue: 3, pp. 273-306, Published In: July 2018, doi: <https://doi.org/10.13052/jmm1550-4646.1432>. [Scopus Indexed Journal]
3. K.P. Swain, **S. R. Samal**, I.S. Amiri, M.N. Mohanty, G. Palai, "Digital Advertisement: A BLE Beacon Based Application", International Journal of Advanced Science and Technology, Vol. 29, No. 8s, 2725-2729, May 2020, pp.. [Scopus Indexed Journal]
4. S. Bandopadhyaya, **S. R. Samal**, V. Poulkov, "Machine Learning Based Performance Predication Model for Massive MIMO HetNet System", MDPI, Sensors, Vol. 21, no. 3:800, 2021, <https://doi.org/10.3390/s21030800>. [SCI Indexed Journal]
5. **S. R. Samal**, S. Bandopadhyaya, K.P. Swain, V. Poulkov, "Mobility Management in Heterogeneous Cellular Networks: An Analysis of Power Consumption and Network Selection Delay in a k-tier Architecture", zJournal of Mobile Multimedia, <https://doi.org/10.13052/jmm1550-4646.171321>. [Scopus Indexed Journal]
6. A. Shrivastava, C. K. Nayak, R. Dilip, **S. R. Samal**, S. Rout, S. Md. Ashfaque, "Automatic robotic system design and development for vertical hydroponic farming using IoT and big data analysis", Materials Today: Proceedings, Sciendoirect, ISSN 2214-7853, 2021.

**Conferences:**

1. **S. R. Samal**, "Pitch Synchronous Overlap Add -In Enhancing the Speech Signal Quality", in the National Conference On "Recent Trends in Information & Communication Technology", India Nov., 2011.
2. M.Chaudhari, **S. R. Samal**, P.Koleva, V.Poulkov, "Sustainable Routing Protocol to Improve Life Time of Manet", "Technology for the Betterment of Human Communication", Global Wireless Summit 2016 (GWS-2016), The AULA, NordreRinggade 4, 8000 Aarhus C, Denmark, Nov 2016.
3. S. Bandopadhaya, **S. R. Samal**, S. K. Dora and V. Poulkov, "Base Station Transmission Power Optimization in Interference-Limited Cellular Networks for Maximum Energy Efficiency", in Proceedings of 13th IEEE International Conference on Advanced Technologies, Systems and Services in Telecommunications (TELSIKS), pp. 228-231, Nis, Serbia, Oct. 2017.
4. **S. R. Samal**, S. Bandopadhaya, A. Pathy, V. Poulkov and A. Mihovska " An Energy-Efficient Head Node Selection For Load Balancing in a Heterogeneous Wireless Sensor Network", IEEE Asilomar Conference on Signals, Systems and Computers (ASILOMAR-2018), Pacific Grove, United States, Oct. 2018.
5. N. Dandanov, **S. R. Samal**, S. Bandopadhaya, V. Poulkov, K. Tonchev and P. Koleva, "Comparison of Wireless Channels for Antenna Tilt based Coverage and Capacity Optimization", 6th Global Wireless Summit (GWS - 2018) Chiang Rai, Thailand, Nov. 2018.
6. K. Reddy, **S. R. Samal**, A. Roy, S. Bandopadhaya, "Truncated design for patch antenna in S,C, K-bands for 5G satellite networks", International conference on IoT based control networks and intelligent systems (ICICNIS-2020), Elsevier, Kottayam, India, 2020. Online: SSRN: <https://ssrn.com/abstract=3769081> or <http://dx.doi.org/10.2139/ssrn.3769081>

**Book Chapters:**

1. **S. R. Samal**, N. Dandanov, S. Bandopadhaya, V. Poulkov, "Adaptive Antenna Tilt for Cellular Coverage Optimization in Suburban Scenario", Biologically Inspired Techniques in Many-Criteria Decision Making (BITMDM 2019) M. Favorskaya (eds). Learning and Analytics in Intelligent Systems, vol 10. Springer, Cham, Jan 2020.
2. K.P. Swain, **S. R. Samal**, I.S. Amiri, M.N. Mohanty, G. Palai, "Academic Students Attendance System: A case study of Alexa skill development", International Conference on Communication, Circuits, and Systems (iC3S 2020), Oct 2020, India.

**Patents:**

1. Application Number: 202031014831  
Title of Invention: "Energy Efficient Monitoring of Mental Challenged People using Wireless Sensor Monitoring".  
Publication Date (U/S 11A):15/05/2020
2. Application Number: 202041030393  
Title of Invention: "Wireless Sensor Network Based Smart Eye Glasses for Assisting Visually Impaired People".  
Publication Date (U/S 11A):31/07/2020
3. Application Number: 202041045313

**JOURNAL &  
CONFERENCES**

Title of Invention: "Sensor Based Smart Railway System to Minimize Train Collision and Accidents".

Publication Date (U/S 11A): 30/10/2020

4. Application Number: 202131010399

Title of Invention: "Multi-Firmware Aided Aviation System with 3D Mapping Capabilities".

Publication Date (U/S 11A): 02/04/2021

5. Application Number: 202111022796

Title of Invention: "Optical Lock Through Visible Light Communication for Electronic Device".

Publication Date (U/S 11A): 28/05/2021

6. Application Number: 202111028655

Title of Invention: "Controlling of Electrical System using Photonic Filters".

Publication Date (U/S 11A): 20/08/2021